4. WORK PLAN AND METHODOLOGY :

WORK PLAN:

- In first six months work planned as follow:

1. The topic will be selected and find the method for synthesis (1st step).
2. Drug product will be arranged from available in the market or from manufacturers. Along with standard.
3. Reagents and other chemicals will be identified.
4. Equipment for experiments will be identified.
5. Experimental trials to be planned.
6. Find the place and to get the permission for research work, try best to start work within a time.

- In next six to12 months following work was planned:

1. To completed the (30 derivatives) of 1st step synthesis.
2. After will be find the method for 2nd step synthesis.
3. Drug product will be arranged from available in the market or from manufacturers. Along with standard.
4. Reagents and other chemicals will be identified.
5. Experimental trials to be planned.
6. To completed the (30 derivatives) of 2nd step synthesis.
7. Find the method for 3rd step synthesis

- In next six to 12 months following work was planned:

1. After will be find the method for 3rd step synthesis.
2. Drug product will be arranged from available in the market or from manufacturers. Along with standard.
3. Reagents and other chemicals will be identified.
4. Experimental trials to be planned.
5. To completed (30 derivatives) of 3rd step synthesis.
6. All (30 derivatives) send for spectral analysis like ^{1}HNMR, ^{13}C-NMR, Mass spectroscopy, elemental analysis,IR, and U.V. and anti-microbial activity.
7. The resulting product would have been evaluated for their microbial activity and paper published.

8. Collect the review article related topics and three seminar attended
9. To prepare synopsis, critical review , summary, documentary work and prepare thesis

METHODOLOGY:

STEP-1

- A mixture of Phenylhydrazine (0.01 M) and mono substituted Acetophenone (0.01M) dissolve in Alcohol. and add few ml of Gla.acetic acid. Then the mixture Will be reflux on water bath for h. Product were obtained after cooling. The product Will be recrystalize from Alcohol the product kept in desicator till further use.
- Product was obtained mono substituted phenyl hydrazone.

STEP-2

- The comp. of mono substituted phenyl hydrazone (0.01 M) will be add in a mixture of Vilsmeier-Haack reagent. and reflux for an hours. Then reaction mixture was poured in crushed ice. Followed by neutralization using $NaHCO_3$. Then the product will be isolate and recrystalize from methanol. Product will keep in desicator till furtheruse.
- (Vilsmeier-Haack reagent prepared): 1.2 ml $POCl_3$ added by dropwise in 10 ml ice-cooled DMF.
- The product will be obtain Aldehyde.

STEP-3

- The compound Aldehyde (0.01 M) and different type of amine (0.01M) will be dissolve in methanol and few drop of glacial acetic acid will be add. Then the mixture will be reflux for an hours on water bath. The excess volume of methanol will distilled off. Then poured in to ice-cold water. The product will be filter and wash. And recrystalize from methanol.
- The product will be obtain (Schiff base)

Where,

R = Different Substituted Aldehyde

R'= Different types of Sulfa Drugs

Characterization:

- The Purity of the synthesize compound will be check by TLC plates.
- Melting point of the synthesize compounds will determine by open capillary method.
- The structure of synthesize compounds will confirm by IR recorded using KBr on Shimadzu FTIR and 1HNMR,13CNMR record in DMSO on a Bruker FT-NMR,MS will be determine on Discovery Make Thermo Spectrometer**.**

Biological Studies:

- All the synthesize compounds will be evaluate for their antimicrobial activity against different Gram-positive (Bacillus subtilis and Staphylococcus aureus) and Gram-negative (Escherichia coli and P.aeruginosa) and fungal strains Aspergillus niger and Candida albicans organisms by measuring zone of inhibition.. The antimicrobial activity will be carry by the agar diffusion using appropriate reference drugs.